

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 22 JUL 2004

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Applicant's or agent's file reference XA1599	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/01387	International filing date (day/month/year) 28.03.2003	Priority date (day/month/year) 19.04.2002
International Patent Classification (IPC) or both national classification and IPC B64C25/16		
Applicant BAE SYSTEMS PLC et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 09.10.2003	Date of completion of this report 21.07.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Salentiny, G Telephone No. +49 89 2399-8337 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-12 as originally filed

Claims, Numbers

1-20 as originally filed

Drawings, Sheets

1/10-10/10 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
 - ☒ claims Nos. 18
- because:
- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
 - ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 18 are so unclear that no meaningful opinion could be formed (*specify*):
- see separate sheet**
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
 - ☐ no international search report has been established for the said claims Nos.
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the Standard.
 - ☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-6,8-11,13-17,20
	No: Claims	1-3,7,12,19
Inventive step (IS)	Yes: Claims	20
	No: Claims	4-6,8-11,13-17
Industrial applicability (IA)	Yes: Claims	1-17,19,20
	No: Claims	

2. Citations and explanations

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see separate sheet

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Reference is made to the following documents cited in the international search report :

- D1: US-A-2 406 710 (Ramey Blaine B. et al., 27 August 1946)
- D2: WO-A-01 56878 (White Nicholas John, 9 August 2001)
- D3: GB-A-537 234 (General Aircraft Limited, 13 June 1941)
- D4: EP-A-1 129 938 (Boeing Co., 5 September 2001)

III. Non-Establishment of opinion

No opinion is issued for claim 18 as the wording of the claim does not address any technical features of the landing gear. This results in a lack of clarity (Art. 6 PCT in combination with Rule 6.2 PCT).

V. Reasoned Statement under Art. 35(2) with regard to novelty, inventive step or industrial applicability

1. The subject-matter of claim 1 fails in meeting the novelty requirements of Article 33(2) PCT.

The prior art document D1 discloses an aircraft landing door assembly including a plurality of doors (fig. 1, item 6,16) moveable between open and closed positions (figures 2-4) , the plurality of doors including a first door (item 6) mounted for rotational movement between closed and open positions about a first, generally longitudinal axis and a transverse door (item 16), mounted for rotational movement between closed and open positions about a generally horizontal axis that is transverse to the first generally longitudinal axis.

2. Both doors (6,16) of D1 are mounted for fixed-axis rotational movement about their respective axis (figures). The subject-matter of claims 2 and 3 therefore also fail in meeting the novelty requirements of Article 33(2) PCT.
3. The plurality of doors of the landing gear door assembly are operated in D1 via linkages connected to the landing gear leg, the leg providing the actuation means for the opening and closing of the doors. The use of a prime mover to operate the plurality of doors as claimed in claim 4 cannot be looked upon as being the result of an inventive activity according to Article 33(3) PCT. Making the door operation independent from the gear movement is indeed known in the prior art (e.g. D2,

page 1, line 13-24) and the use of this technique for the landing gear door arrangement of D1 is considered to represent a mere design possibility for the landing gear door operation, a design possibility known to the skilled person.

4. The use of a linear actuator for operating the landing gear doors is known from D2 (page 2, line 14-15). Claim 5 therefore also fails in meeting the inventive step requirements of Article 33(3) PCT.
5. The additional features of claim 6 provide a solution for reducing the aerodynamic drag of the transverse door in its open position. D3 deals with the same problem (page 2, line 37-46) and provides the same solution therefor (page 2, line 47-59). Claim 6 therefore fails in meeting the inventive step requirements of Article 33(3) PCT.
6. The transverse door of D1 (figure 1, item 16) is mounted aft of the first door (item 6). The subject-matter of claim 7 is not new (Article 33(2) PCT).
7. Multi-segment doors which are used for closing large landing gear wells are known in the art (D4, figures 2a,2b,2c). Those door segments, during their opening movement, move through space occupied by adjacent door segments. The skilled person will adopt this technique in case the landing gear well is large and the ground clearance is small. An inventive activity is not required therefor and the subject-matter of claim 8 thus fails in meeting the requirements of Article 33(3) PCT.
8. The multi-segment doors of D4 are also mounted for fixed-axis rotational movement about longitudinal axis (figures 2a,2b,2c) and these axis are also disposed at a location vertically spaced above the level of the aperture. The subject-matter of claims 9 - 11 do therefore also not meet the inventive step requirements of Article 33(3) PCT.
9. D1 also disclosed a pair of longitudinal doors (item 6) on opposite sides of the aperture. The subject-matter of claim 12 is not new (Article 33(2) PCT).
10. The additional features of claims 13-17 again refer to a multi-segment door as known from D4 (figures 2a,2b,2c). The subject-matter of these claims do therefore also not meet the inventive step requirements of Article 33(3) PCT.

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11. The landing gear door assembly of D1 is an aircraft landing gear door. The subject-matter of claim 19 is not new (Article 33(2) PCT).
12. The subject-matter of claim 20 could be the basis for a new, allowable independent claim.

Further observations

The background art disclosed in the documents D1 - D4 is not mentioned in the description (Rule 5.1(a)(ii) PCT) and the relevant passages thereof are not discussed therein.

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).